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Prepared Statement of the Federal Trade Commission

**Market Forces, Competitive Dynamics, and Gasoline Prices:
FTC Initiatives to Protect Competitive Markets**

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I. Introduction

Mr. Chairman and members of the Committee, I am John Seesel, the Federal Trade Commission's Associate General Counsel for Energy. I am pleased to appear before you to present the Commission's testimony on FTC initiatives to protect competitive markets in the production, distribution, and sale of gasoline, and to discuss an important recent Commission study on the factors that affect gasoline prices.¹

The petroleum industry plays a crucial role in our economy. Not only do changes in gasoline prices affect consumers directly, but the price and availability of gasoline also influence many other economic sectors. No other industry's performance is more deeply felt or carefully scrutinized.

Gasoline prices are among the most visible prices in our complex economy. Consumers closely follow gasoline prices, and in recent months these prices have experienced dramatic increases. In recent weeks, prices of gasoline have exceeded \$3.00 a gallon in some markets. Despite higher prices, demand for gasoline continues to grow, increasing at a 1.6 percent rate over the most recent four-week period for which data are available (August 19), over that same period for last year. Gasoline inventories remain at the lower end of the average range. These rising prices command our attention.

¹This written statement represents the views of the Federal Trade Commission. My oral presentation and responses to questions are my own and do not necessarily represent the views of the Commission or any Commissioner.

On top of this tight market, Hurricane Katrina has temporarily disrupted an important source of crude oil and gasoline supply. At one point, over 95 percent of Gulf Coast crude oil production was shut in, and numerous refineries and pipelines were either damaged or without electricity.² Because of this massive supply disruption, price relief has been and will be delayed.

The FTC has been and remains vigilant regarding anticompetitive conduct in this industry. Recent activity includes, on June 10, 2005, the acceptance of two consent orders that resolved the competitive concerns relating to Chevron's acquisition of Unocal and settled the FTC's 2003 monopolization complaint against Unocal. The Unocal settlement alone has the potential of saving billions of dollars for consumers nationwide in future years. In addition, in early July 2005, the Commission published its study of the factors that affect gasoline prices.³ This study grew out of conferences of industry, consumer, academic, and government participants held by the Commission over the past four years, as well as years of research and experience, and sheds light on how gasoline prices are set.

²See Minerals Mgmt. Serv., U.S. Dep't of the Interior, Release No. 3328, *Hurricane Katrina Evacuation and Production Shut-in Statistics Report as of Tuesday, August 30, 2005* (2005), at <http://www.mms.gov/ooc/press/2005/press0830.htm>.

³FEDERAL TRADE COMMISSION, GASOLINE PRICE CHANGES: THE DYNAMIC OF SUPPLY, DEMAND, AND COMPETITION (2005) [hereinafter GASOLINE PRICE CHANGES], available at <http://www.ftc.gov/reports/gasprices05/050705gaspricesrpt.pdf>.

In 2004, the FTC staff published a study reviewing the petroleum industry's mergers and structural changes as well as the antitrust enforcement actions the FTC has taken.⁴ Commission enforcement statistics show that the agency has taken action against proposed mergers in this industry at concentration levels lower than in other industries. Since 1981, the FTC has filed complaints against 19 large petroleum mergers. In 13 of these cases, the FTC obtained significant divestitures. Of the six other matters, the parties in four cases abandoned the transactions altogether after our respective antitrust challenges; one case resulted in a remedy requiring the acquiring firm to provide the Commission with advance notice of its intent to acquire or merge with another entity; and the sixth case is ongoing.

In addition to litigation and industry studies, the Commission also protects consumers through other initiatives. The Commission actively monitors wholesale and retail prices of gasoline.⁵ Three years ago, the FTC launched an initiative to monitor gasoline prices to identify "unusual" movements in prices⁶ and then examine whether any such movements might result

⁴BUREAU OF ECONOMICS, FEDERAL TRADE COMMISSION, THE PETROLEUM INDUSTRY: MERGERS, STRUCTURAL CHANGE, AND ANTITRUST ENFORCEMENT (2004) [hereinafter PETROLEUM MERGER REPORT], *available at* <http://www.ftc.gov/os/2004/08/040813mergersinpetrolberpt.pdf>.

⁵See FTC, *Oil and Gas Industry Initiatives*, at <http://www.ftc.gov/ftc/oilgas/index.html>.

⁶An "unusual" price movement in a given area is a price that is significantly out of line

from anticompetitive conduct that violates Section 5 of the FTC Act. FTC economists developed a statistical model for identifying such movements. The agency's economists daily scrutinize price movements in 20 wholesale and approximately 360 retail markets across the country. In no other industry does the Commission so closely monitor prices.

with the historical relationship between the price of gasoline in that area and the gasoline prices prevailing in other areas.

This gasoline monitoring and investigation initiative focuses on the timely identification of unusual movements in gasoline prices (compared to historical trends) to determine if a law enforcement investigation is warranted. If the FTC staff detects unusual price movements in an area, it researches the possible causes, including consultation, if appropriate, with the state Attorneys General, state energy agencies, and the Department of Energy's ("DOE") Energy Information Administration. The FTC staff also monitors DOE's gasoline price "hotline" complaints. If the staff concludes that the unusual price movement likely results from a "natural" cause (*i.e.*, a cause unrelated to anticompetitive conduct), absent other evidence of potential anticompetitive conduct, it does not investigate further (although it continues to monitor).⁷ The Commission's experience from its past investigations and the current monitoring initiative indicate that unusual movements in gasoline prices typically have a natural cause. FTC staff further investigates unusual price movements that do not appear to be explained by "natural" causes to determine whether anticompetitive conduct may be a cause. Cooperation with state law enforcement officials is an important element of such investigations.

The Commission's testimony today addresses the Committee's inquiries in two parts. It first reviews the basic tools that the Commission uses to promote competition in the petroleum industry: challenging potentially anticompetitive mergers, prosecuting nonmerger antitrust violations, monitoring industry behavior to detect possible anticompetitive conduct, and researching petroleum sector developments. This review of the Commission's petroleum industry agenda highlights the FTC's contributions to promoting and maintaining competition in

⁷Natural causes include movements in crude oil prices, supply outages (*e.g.*, from refinery fires or pipeline disruptions), or changes in and/or transitions to new fuel requirements imposed by air quality standards.

the industry. The Commission places a premium on careful research, industry monitoring, and investigations to understand current petroleum industry developments and to identify accurately obstacles to competition, whether arising from private behavior or from public policies. The petroleum industry's performance is shaped by the interaction of extraordinarily complex, fast-changing commercial arrangements and an elaborate set of public regulatory commands. A well-informed understanding of these factors is essential if FTC actions are to benefit consumers.

The second part of this testimony reviews the learning the Commission has derived from its conferences and research and its review of recent gasoline price changes. Among other findings, this discussion highlights the paramount role that crude oil prices play in determining both the levels and the volatility of gasoline prices in the United States. Changes in crude oil prices account for approximately 85 percent of the variability of gasoline prices.⁸ When crude oil prices rise, so do gasoline prices. Crude oil prices are determined by supply and demand conditions worldwide. The supply of crude is strongly influenced by production levels set by members of the Organization of Petroleum Exporting Countries ("OPEC"). Demand has increased substantially over the past few years, both in the United States and in the developing economies of China and India. When worldwide supply and demand conditions result in crude oil prices in the range of \$70 per barrel, it is not surprising that we see higher gasoline prices nationwide.

II. FTC Activities to Maintain and Promote Competition in the Petroleum Industry

A. Merger Enforcement in the Petroleum Industry

⁸See GASOLINE PRICE CHANGES, *supra* note 3, at 13.

The Commission has gained much of its antitrust enforcement experience in the petroleum industry by analyzing proposed mergers and challenging transactions that likely would reduce competition, thus resulting in higher prices.⁹ In 2004, the Commission released data on all horizontal merger investigations and enforcement actions from 1996 to 2003.¹⁰ These data show that the Commission has brought more merger cases at lower levels of concentration in the petroleum industry than in other industries. Unlike in other industries, the Commission has obtained merger relief in moderately concentrated petroleum markets.

Several recent merger investigations illustrate the FTC's approach to merger analysis in the petroleum industry. The most recently completed case involved Chevron's acquisition of the Union Oil Company of California ("Unocal"). When the merger investigation began, the Commission was in the middle of an ongoing monopolization case against Unocal that would

⁹Section 7 of the Clayton Act prohibits acquisitions where the anticompetitive effects may occur "in any line of commerce or in any activity affecting commerce in any section of the country." 15 U.S.C. § 18.

¹⁰Federal Trade Commission Horizontal Merger Investigation Data, Fiscal Years 1996-2003 (Feb. 2, 2004), Table 3.1, et seq.; FTC Horizontal Merger Investigations Post-Merger HHI and Change in HHI for Oil Markets, FY 1996 through FY 2003 (May 27, 2004), *available at* <http://www.ftc.gov/opa/2004/05/040527petrolactionsHHIdeltachart.pdf>.

have been affected by the merger. Thus, the Commission settled both the merger and the monopolization matters with separate consent orders that preserved competition in all relevant merger markets and obtained complete relief on the monopolization claim.¹¹ The nonmerger case is discussed below.

¹¹*Chevron Corp.*, FTC Docket No. C-4144 (July 27, 2005) (consent order), at <http://www.ftc.gov/os/caselist/0510125/050802do0510125.pdf>; *Union Oil Co. of California*, FTC Docket No. 9305 (July 27, 2005) (consent order), at <http://www.ftc.gov/os/adjpro/d9305/050802do.pdf>.

Another recent merger case that resulted in a divestiture order resolved a complaint concerning the acquisition of Kaneb Services and Kaneb Pipe Line Partners, companies that engaged in petroleum transportation and terminaling in a number of markets, by Valero L.P., the largest petroleum terminal operator and second largest operator of liquid petroleum pipelines in the United States.¹² The complaint alleged that the acquisition had the potential to increase prices in bulk gasoline and diesel markets.¹³

The FTC's consent order requires the parties to divest assets sufficient to maintain premerger competition, including certain Kaneb Philadelphia-area terminals, Kaneb's West pipeline system in Colorado's Front Range, and Kaneb's Martinez and Richmond terminals in Northern California.¹⁴ In addition, the order forbids Valero L.P. from discriminating in favor of or otherwise preferring its Valero Energy affiliate in bulk ethanol terminaling services, and requires Valero to maintain customer confidentiality at the Selby and Stockton terminals in Northern California. The order succeeds in maintaining import possibilities for wholesale customers in Northern California, Denver, and greater Philadelphia and precludes the merging parties from undertaking an anticompetitive price increase.

¹²*Valero L.P.*, FTC Docket No. C-4141 (June 14, 2005) (complaint), at <http://www.ftc.gov/os/caselist/0510022/050615comp0510022.pdf>.

¹³*Id.*

¹⁴*Valero L. P.*, FTC Docket No. C-4141 (July 22, 2005) (consent order), at <http://www.ftc.gov/os/caselist/0510022/050726do0510022.pdf>.

Most recently, the Commission filed a complaint on July 27, 2005, in federal district court in Hawaii, alleging that Aloha Petroleum's proposed acquisition of Truststreet Properties' half interest in an import-capable terminal and retail gasoline assets on the island of Oahu would reduce the number of gasoline marketers and could lead to higher gasoline prices for Hawaii consumers.¹⁵ Because this matter is currently in litigation, this testimony will not discuss it in any more detail.

In the past few years, the Commission has brought a number of other important merger cases. One of these involved the merger of Chevron and Texaco,¹⁶ which combined assets located throughout the United States. Following an investigation in which 12 states participated, the Commission issued a consent order against the merging parties requiring numerous divestitures to maintain competition in particular relevant markets, primarily in the western and southern United States.¹⁷ Among other requirements, the consent order compelled Texaco to (a) divest to Shell and/or Saudi Refining, Inc., all of its interests in two joint ventures – Equilon¹⁸ and Motiva¹⁹ – through which Texaco had been competing with Chevron in gasoline marketing

¹⁵*Aloha Petroleum Ltd.*, FTC File No. 051 0131 (July 27, 2005) (complaint), at <http://www.ftc.gov/os/caselist/1510131/050728comp1510131.pdf>.

¹⁶*Chevron Corp.*, FTC Docket No. C-4023 (Jan. 2, 2002) (consent order), at <http://www.ftc.gov/os/2002/01/chevronorder.pdf>.

¹⁷*Id.*

¹⁸Shell and Texaco jointly controlled the Equilon venture, whose major assets included full or partial ownership in four refineries, about 65 terminals, and various pipelines. Equilon marketed gasoline through approximately 9,700 branded gas stations nationwide.

¹⁹Motiva, jointly controlled by Texaco, Shell, and Saudi Refining, consisted of their eastern and Gulf Coast refining and marketing businesses. Its major assets included full or partial ownership in four refineries and about 50 terminals, with the companies' products marketed through about 14,000 branded gas stations nationwide.

in the western and southern United States; (b) divest all assets relating to the refining, bulk supply, and marketing of gasoline satisfying California's environmental quality standards; (c) divest assets relating to the refining and bulk supply of gasoline and jet fuel in the Pacific Northwest; and (d) divest various pipelines used to transport petroleum products.

Another petroleum industry transaction that the Commission challenged successfully was the \$6 billion merger between Valero Energy Corp. ("Valero") and Ultramar Diamond Shamrock Corp. ("Ultramar").²⁰ Both Valero and Ultramar were leading refiners and marketers of gasoline that met the specifications of the California Air Resources Board ("CARB") and were the only significant suppliers to independent stations in California. The Commission's complaint alleged competitive concerns in both the refining and bulk supply of CARB gasoline in two separate geographic markets, the state of California and Northern California, and the Commission contended that the merger could raise the cost to California consumers by at least \$150 million annually for every one-cent-per-gallon price increase at retail.²¹ To remedy the alleged violations, the consent order settling the case required Valero to divest: (a) an Ultramar refinery in Avon, California; (b) all bulk gasoline supply contracts associated with that refinery; and (c)

²⁰*Valero Energy Corp.*, FTC Docket No. C-4031 (Feb. 19, 2002) (consent order), at <http://www.ftc.gov/os/2002/02/valerodo.pdf>.

²¹*Valero Energy Corp.*, FTC. Docket No. C-4031 (Dec. 18, 2001), at <http://www.ftc.gov/os/2001/12/valerocmp.pdf>.

70 Ultramar retail stations in Northern California.²²

²²*Valero Energy Corp.*, *supra* note 20.

A final example is the Commission's 2002 challenge to the merger of Phillips Petroleum Company and Conoco Inc., alleging that the transaction would harm competition in the Midwest and Rocky Mountain regions of the United States. To resolve that challenge, the Commission required the divestiture of: (a) the Phillips refinery in Woods Cross, Utah, and all of the Phillips-related marketing assets served by that refinery; (b) Conoco's refinery in Commerce City, Colorado (near Denver), and all of the Phillips marketing assets in Eastern Colorado; and (c) the Phillips light petroleum products terminal in Spokane, Washington.²³ The Commission's order ensured that competition would not be lost and that gasoline prices would not increase as a result of the merger.

B. Nonmerger Investigations into Gasoline Pricing

In addition to scrutinizing mergers, the Commission aggressively polices anticompetitive

²³*Conoco Inc. and Phillips Petroleum Corp.*, FTC Docket No. C-4058 (Aug. 30, 2002) (Analysis of Proposed Consent Order to Aid Public Comment), at <http://www.ftc.gov/os/2002/08/conocophillipsan.htm>. Not all oil industry merger activity raises competitive concerns. For example, in 2003, the Commission closed its investigation of Sunoco's acquisition of the Coastal Eagle Point refinery in the Philadelphia area without requiring relief. The Commission noted that the acquisition would have no anticompetitive effects and seemed likely to yield substantial efficiencies that would benefit consumers. *Sunoco Inc./Coastal Eagle Point Oil Co.*, FTC File No. 031 0139 (Dec. 29, 2003) (Statement of the Commission), at <http://www.ftc.gov/os/caselist/0310139/031229stmt0310139.pdf>. The FTC also considered the likely competitive effects of Phillips Petroleum's proposed acquisition of Tosco. After careful scrutiny, the Commission declined to challenge the acquisition. A statement issued in connection with the closing of the investigation set forth the FTC's reasoning in detail. *Phillips Petroleum Corp.*, FTC File No. 011 0095 (Sept. 17, 2001) (Statement of the Commission), at <http://www.ftc.gov/os/2001/09/phillipstoscotmt.htm>.

Acquisitions of firms operating mainly in oil or natural gas exploration and production are unlikely to raise antitrust concerns, because that segment of the industry is generally unconcentrated. Acquisitions involving firms with de minimis market shares, or with production capacity or operations that do not overlap geographically, are also unlikely to raise antitrust concerns.

conduct. When it appears that higher prices might result from collusive activity or from anticompetitive unilateral activity by a firm with market power, the agency investigates to determine whether unfair methods of competition have been used. If the facts warrant, the Commission challenges the anticompetitive behavior, usually by issuing an administrative complaint.

Several recent petroleum investigations are illustrative. On March 4, 2003, the Commission issued the administrative complaint referred to above, stating that it had reason to believe that Unocal had violated Section 5 of the FTC Act.²⁴ The Commission alleged that Unocal deceived the California Air Resources Board (“CARB”) in connection with regulatory proceedings to develop the reformulated gasoline (“RFG”) standards that CARB adopted. Unocal allegedly misrepresented that certain technology was non-proprietary and in the public domain, while at the same time it pursued patents that would enable it to charge substantial royalties if CARB mandated the use of Unocal’s technology in the refining of CARB-compliant summertime RFG. The Commission alleged that, as a result of these activities, Unocal illegally acquired monopoly power in the technology market for producing the new CARB-compliant summertime RFG, thus undermining competition and harming consumers in the downstream product market for CARB-compliant summertime RFG in California. The Commission estimated that Unocal’s enforcement of its patents could potentially result in over \$500 million of additional consumer costs each year.

The proposed merger between Chevron and Unocal raised additional concerns. Although

²⁴*Union Oil Co. of California*, FTC Docket No. 9305 (Mar. 4, 2003) (complaint), at <http://www.ftc.gov/os/2003/03/unocalcmp.htm>.

Unocal had no horizontal refining or retailing overlaps with Chevron, it had claimed the right to collect patent royalties from companies that had refining and retailing assets (including Chevron). If Chevron had unconditionally inherited these patents by acquisition, it would have been in a position to obtain sensitive information and to claim royalties from its own horizontal downstream competitors. Chevron, the Commission alleged, could have used this information and this power to facilitate coordinated interaction and detect any deviations.

The Commission resolved both the Chevron/Unocal merger investigation and the monopolization case against Unocal with consent orders. The key element in these settlements is Chevron's agreement not to enforce the Unocal patents.²⁵ The FTC's settlement of these two matters is thus a double victory for California consumers. The Commission's monopolization case against Unocal was complex and, with possible appeals, could have taken years to resolve, with substantial royalties to Unocal – and higher consumer prices – in the interim. The settlement provides the full relief sought in the monopolization case and also resolves the only competitive issue raised by the proposed merger. With the settlement, consumers will benefit immediately from the elimination of royalty payments on the Unocal patents, and potential merger efficiencies could result in additional savings at the pump.

²⁵*Union Oil Co. of California*, *supra* note 11.

The FTC undertook another major nonmerger investigation during 1998-2001, examining the major oil refiners' marketing and distribution practices in Arizona, California, Nevada, Oregon, and Washington (the "Western States" investigation).²⁶ The agency initiated the Western States investigation out of concern that differences in gasoline prices in Los Angeles, San Francisco, and San Diego might be due partly to anticompetitive activities. The Commission's staff examined over 300 boxes of documents, conducted 100 interviews, held over 30 investigational hearings, and analyzed a substantial amount of pricing data. The investigation uncovered no basis to allege an antitrust violation. Specifically, the investigation detected no evidence of a horizontal agreement on price or output or the adoption of any illegal vertical distribution practice at any level of supply. The investigation also found no evidence that any refiner had the unilateral ability to raise prices profitably in any market or reduce output at the wholesale level. Accordingly, the Commission closed the investigation in May 2001.

In conducting these and other inquiries, the Commission makes the important distinction between short-term and long-term effects. While a refinery outage on the West Coast could significantly affect short-term prices, the FTC did not find that it would be profitable in the long

²⁶FTC Press Release, *FTC Closes Western States Gasoline Investigation* (May 7, 2001), available at <http://www.ftc.gov/opa/2001/05/westerngas.htm>. In part, this investigation focused on "zone pricing" and "redlining." See *Statement of Commissioners Sheila F. Anthony, Orson Swindle and Thomas B. Leary*, available at <http://www.ftc.gov/os/2001/05/wsgpiswindle.htm>, and *Statement of Commissioner Mozelle W. Thompson*, available at <http://www.ftc.gov/os/2001/05/wsgpithompson.htm>, for a more detailed discussion of these practices and the Commission's findings. See also Cary A. Deck & Bart J. Wilson, *Experimental Gasoline Markets*, Federal Trade Commission, Bureau of Economics Working Paper (Aug. 2003), available at <http://www.ftc.gov/be/workpapers/wp263.pdf>, and David W. Meyer & Jeffrey H. Fischer, *The Economics of Price Zones and Territorial Restrictions in Gasoline Marketing*, Federal Trade Commission, Bureau of Economics Working Paper (Mar. 2004), available at <http://www.ftc.gov/be/workpapers/wp271.pdf>.

run for a refiner to restrict its output to raise the level of prices in the market. For example, absent planned maintenance or unplanned outages, refineries on the West Coast (and in the rest of the country) generally run at full (or nearly full) capacity. If gasoline is in short supply in a locality due to refinery or pipeline outages, and there are no immediate alternatives, a market participant may find that it can profitably increase prices by reducing its refinery output – generally only for a short time, until the outage is fixed or alternative supply becomes available. This transient power over price – which occurs infrequently and lasts only as long as the shortage – should not be confused with the durable power over price that is the hallmark of market power in antitrust law.

In addition to the *Unocal* and West Coast pricing investigations, the Commission conducted a nine-month investigation into the causes of gasoline price spikes in local markets in the Midwest in the spring and early summer of 2000.²⁷ As explained in a 2001 report, the Commission found that a variety of factors contributed in different degrees to the price spikes. Primary factors included refinery production problems (*e.g.*, refinery breakdowns and unexpected difficulties in producing the new summer-grade RFG gasoline required for use in Chicago and Milwaukee), pipeline disruptions, and low inventories. Secondary factors included high crude oil prices that contributed to low inventory levels, the unavailability of substitutes for certain environmentally required gasoline formulations, increased demand for gasoline in the Midwest, and *ad valorem* taxes in certain states. The industry responded quickly to the price

²⁷Midwest Gasoline Price Investigation, Final Report of the Federal Trade Commission (Mar. 29, 2001), available at <http://www.ftc.gov/os/2001/03/mwgasrpt.htm>; see also Remarks of Jeremy Bulow, Director, Bureau of Economics, *The Midwest Gasoline Investigation*, available at <http://www.ftc.gov/speeches/other/midwestgas.htm>.

spike. Within three or four weeks, an increased supply of product had been delivered to the Midwest areas suffering from the supply disruption. By mid-July 2000, prices had receded to pre-spike or even lower levels.

The Commission's merger investigations also are relevant to the detection of nonmerger antitrust violations. FTC oil and gas merger investigations during the past decade uniformly have been major undertakings that have reviewed all pertinent facets of the relevant petroleum markets. These investigations have involved the review of thousands of boxes of documents in discovery, examination of witnesses under oath, and exhaustive questioning of outside experts. The FTC staff, therefore, have learned information that also could assist in detecting and investigating potentially anticompetitive conduct.

III. Commission Report on Factors That Affect the Price of Gasoline

What are the causes of high gasoline prices and gasoline price spikes? These important questions require a thorough and accurate analysis of the factors – supply, demand, and competition, as well as federal, state, and local regulations – that drive gasoline prices, so that policymakers can evaluate and choose strategies likely to succeed in addressing high gasoline prices.

The Commission addressed these issues by conducting extensive research concerning gasoline price fluctuations, analyzing specific instances of apparent gasoline price anomalies, and holding a series of conferences²⁸ on the factors that affect gasoline prices, leading to the

²⁸FTC Press Release, *FTC to Hold Second Public Conference on the U.S. Oil and Gasoline Industry in May 2002* (Dec. 21, 2001), available at <http://www.ftc.gov/opa/2001/12/gasconf.htm>.

publication of a report²⁹ that draws on what the Commission has learned about the factors that can influence gasoline prices or cause gasoline price spikes. We discuss the findings of our study, but first set out three basic lessons that emerge from our collective work.

First, in general, the price of gasoline reflects producers' costs and consumers' willingness to pay. Gasoline prices rise if it costs more to produce and supply gasoline, or if people wish to buy more gasoline at the current price – that is, when demand is greater than supply. Gasoline prices fall if it costs less to produce and supply gasoline, or if people wish to buy less gasoline at the current price – that is, when supply is greater than demand. Gasoline prices will stop rising or falling when they reach the level at which the quantity consumers demand matches the quantity that producers will supply.

Second, how consumers respond to price changes will affect how high prices rise and how low they fall. Limited substitutes for gasoline restrict the options available to consumers to respond to price increases in the short run. Because gasoline consumers typically do not reduce their purchases substantially in response to price increases, they are vulnerable to substantial price increases.

Third, producers' responses to price changes will affect how high prices rise, and how low they fall. In general, when there is not enough gasoline to meet consumers' demands at current prices, higher prices will signal a potential profit opportunity and may bring additional supply into the market. Additional supply will be available to the extent that an increase in price exceeds the producers' cost of expanding output.

²⁹GASOLINE PRICE CHANGES, *supra* note 3.

The vast majority of the Commission's investigations and studies have revealed market factors as the primary drivers of both price increases and price spikes. There is a complex landscape of market forces that affect gasoline prices in the United States.

A. Worldwide Supply, Demand, and Competition for Crude Oil Are the Most Important Factors in the National Average Price of Gasoline in the United States

Crude oil is a commodity that is traded on world markets, and the world price of crude oil is the most important factor in the price of gasoline in the United States and all other markets. Over the past 20 years, changes in crude oil prices have explained approximately 85 percent of the changes in the price of gasoline.³⁰ United States refiners compete with refiners all around the world to obtain crude, and the United States now imports more than 60 percent of its crude from foreign sources.

If world crude prices rise, then U.S. refiners must pay higher prices for the crude they

³⁰ A simple regression of the monthly average national price of gasoline on the monthly average price of West Texas Intermediate crude oil shows that the variation in the price of crude oil – based on data for the period January 1984 to October 2003 – explains approximately 85 percent of the variation in the price of gasoline. This is similar to the range of effects given in United States Department of Energy/Energy Information Administration, *Price Changes in the Gasoline Market: Are Midwestern Gasoline Prices Downward Sticky?*, DOE/EIA-0626 (Feb. 1999). More complex regression analysis and more disaggregated data may give somewhat different estimates, but the latter estimates are likely to be of the same general magnitude.

This percentage may vary across states or regions. See Prepared Statement of Justine Hastings before the Committee on the Judiciary, Subcommittee on Antitrust, Competition Policy and Consumer Rights, United States Senate, *Crude Oil: The Source of Higher Gas Prices* (Apr. 7, 2004). Dr. Hastings found a range from approximately 70 percent for California to 91 percent for South Carolina. South Carolina uses only conventional gasoline and is supplied largely by major product pipelines that pass through the state on their way north from the large refinery centers on the Gulf Coast. California, with its unique fuel specifications and its relative isolation from refinery centers in other parts of the United States, historically has been more susceptible to supply disruptions that can cause major gasoline price changes, independent of crude oil price changes.

buy. Facing higher input costs from crude, refiners charge more for the gasoline they sell at wholesale. This requires retail stations to pay more for their gasoline. In turn, retail stations, facing higher input costs, charge consumers more at the pump. In short, when crude oil prices rise, gasoline prices rise because gasoline becomes more costly to produce.

Crude oil prices are not wholly market-determined. Since 1973, decisions by OPEC have been a significant factor in the prices that refiners pay for crude oil. Over time, OPEC has met with varying degrees of success in raising crude oil prices. (For example, OPEC members can be tempted to “cheat” and sometimes sell more crude oil than specified by OPEC limits.) Higher world crude prices due to OPEC’s actions, however, increased the incentives to search for oil in other areas, and crude supplies from non-OPEC members such as Canada, the United Kingdom, and Norway have increased significantly. Nonetheless, OPEC still produces a large enough share of world crude oil to exert market power and strongly influence the price of crude oil when its members adhere to their assigned production quotas. Especially when demand surges unexpectedly, as in 2004, OPEC decisions on whether to increase supply to meet demand can have a significant impact on world crude oil prices.

Crude oil consumption has fallen during some periods over the past 30 years, partially in reaction to higher prices and partially in response to federal laws, such as requirements to increase the fuel efficiency of cars. Gasoline consumption in the United States fell significantly between 1978 and 1982, and remained lower during the 1980s than it had been at the beginning of 1978.³¹ Overall, however, the long-run trend is toward significantly increased demand for crude oil. Over the last 20 years, United States consumption of all refined petroleum products

³¹GASOLINE PRICE CHANGES, *supra* note 3, at 43-45.

increased on average by 1.4 percent per year, leading to a total increase of nearly 30 percent.³²

Crude oil prices have been increasing rapidly in recent months. Demand has remained high in the United States, and large demand increases from rapidly industrializing countries, particularly China and India, have made supplies much tighter than expected.³³

B. Gasoline Supply, Demand, and Competition Produced Relatively Low and Stable Prices From 1984 Until 2004, Despite Substantial Increases in United States Gasoline Consumption

³²*Id.* at 19.

³³This phenomenon was not limited to crude oil: other commodities that form the basis for expanded growth in developing economies, such as steel and lumber, also saw unexpectedly rapid growth in demand, along with higher prices. *Id.* at 27.

Consumer demand for gasoline in the United States has risen substantially, especially since 1990.³⁴ In 1978, U.S. gasoline consumption was about 7.4 million barrels per day. By 1981, in the face of sharply escalating crude oil and gasoline prices and a recession, U.S. gasoline consumption had fallen to approximately 6.5 million barrels per day.³⁵ As gasoline prices began to fall in the 1980s, U.S. consumption of gasoline began to rise once again. By 1993, consumption rose above 1978 levels, and it has continued to increase at a fairly steady rate since then. In 2004, U.S. gasoline consumption averaged about 9 million barrels per day, and the EIA's forecast is for 9.2 million barrels per day this year.³⁶

Despite high gasoline prices across the nation, demand has not fallen off in 2005. Gasoline demand this summer driving season has been above last year's record driving-season demand and well above the average for the previous four years. Average daily demand of finished gasoline for May was 9.3 millions barrels per day, an increase of 1.2 percent over May of 2004, and 5.5 percent higher than the average demand for the previous four summers. Similarly, June's demand was up 2.8 percent over last June (up 5.4 percent from the average of the previous four years) and July's demand increase was up 3.2 percent over July of 2004 (up 4.6 percent from average of the last four years). Gasoline demand for the last four weeks ending August 26 was level with the demand for

³⁴*Id.* at 48.

³⁵*Id.*

³⁶*See id.* at 49; EIA, DOE/EIA-0202, SHORT-TERM ENERGY OUTLOOK, Apr. 2005, app. at 5 tbl.A5, at <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr05.pdf>.

the same period last year, despite much higher prices.³⁷

³⁷EIA, DOE/EIA-0208(2005-34), WEEKLY PETROLEUM STATUS REPORT, August 31, 2005, at 17, tbl.11, *at* http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/historical/2005/2005_08_31/pdf/wpsrall.pdf.

In spite of these substantial demand increases, increased supply from U.S. refineries and imports have kept gasoline prices relatively steady until 2004. A comparison of “real” average annual retail gasoline prices and average annual retail gasoline consumption in the United States from 1978 through 2004 shows that, in general, gasoline prices remained relatively stable despite significantly increased demand.³⁸ Indeed, over the very long run in the 84-year period between 1919 and 2003, real annual average retail gasoline prices in the United States did not increase at all. The data show that, from 1986 through 2003, real national average retail prices for gasoline, including taxes, generally were below \$2.00 per gallon (in 2004 dollars). By contrast, between 1919 and 1985, real national average retail gasoline prices were above \$2.00 per gallon (in 2004 dollars) more often than not.³⁹

Average U.S. retail prices have been increasing since 2003, however, from an average of \$1.56 in 2003 to an average of \$2.04 in the first five months of 2005.⁴⁰ In the last two months, the prices have moved even higher. It is difficult to predict whether these increases represent the beginning of a longer-term trend or are merely normal market fluctuations caused by

³⁸“Real” prices are adjusted for inflation and therefore reflect the different values of a dollar at different times; they provide more accurate comparisons of prices in different time periods. “Nominal” prices are the literal prices shown at the time of purchase.

³⁹See GASOLINE PRICE CHANGES, *supra* note 3, at 43-47.

⁴⁰**The higher prices in 2005 appear to be the result of market factors that have uniformly affected the entire country. At least for the part of this year that preceded Hurricane Katrina, the FTC’s Gasoline Price Monitoring Project has detected no evidence of significant unusual local or regional gasoline pricing anywhere in the United States during this summer driving season. This contrasts with the past two summers, during which various regional supply shocks, such as the Arizona pipeline shutdown and Northeast blackouts of August 2003, and the several unanticipated regional refinery outages and late summer hurricanes during the summer of 2004, significantly increased prices in some areas above levels that might be expected based on historical price patterns.**

unexpectedly strong short-term worldwide demand for crude oil, as well as reflecting the effects of instability in such producing areas as the Middle East and Venezuela.

One of the reasons why long-term real prices have been relatively contained is that United States refiners have taken advantage of economies of scale and adopted more efficient technologies and business strategies. Between 1985 and 2005, U.S. refineries increased their total capacity to refine crude oil into various refined petroleum products by 8.9 percent, moving from 15.7 million barrels per day in 1985 to 17.133 million barrels per day as of August 2005.⁴¹ This increase – approximately 1.4 million barrels per day – is roughly equivalent to adding approximately 10 to 12 average-sized refineries to industry supply. Yet U.S. refiners did not build any new refineries during this time. Rather, they added this capacity through the expansion of existing refineries. They also have adopted processing methods that broaden the range of crude oils that they can process and allow them to produce more refined product for each barrel of crude processed. In addition, they have lowered inventory holdings, thereby lowering inventory costs (although lower inventory holdings may also make an area more

⁴¹PETROLEUM MERGER REPORT, *supra* note 4, at 196, tbl.7-1; EIA, DOE/EIA-0340(04)/1, 1 PETROLEUM SUPPLY ANNUAL 2004, at 78, tbl.36 (2005), at http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_supply_annual/psa_volume1/current/pdf/volume1_all.pdf. EIA, DOE/EIA-0208(2005-33), WEEKLY PETROLEUM STATUS REPORT, August 24, 2005, at http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/historical/2005/2005_08_24/pdf/wpsrall.pdf.

susceptible to SHORT-TERM price spikes when there is a disruption in supply).

Offsetting some of the observed efficiency gains, increased environmental requirements since 1992 have likely raised the retail price of gasoline by a few cents per gallon in some areas.

Because gasoline use is a major factor in air pollution in the United States, the U.S. Environmental Protection Agency – under the Clean Air Act⁴² – requires various gasoline blends for particular geographic areas that have not met certain air quality standards. While available information shows that the air quality in the United States has improved due to the Clean Air Act,⁴³ as with any regulatory program, costs come with the benefits. Environmental laws and regulations have required substantial and expensive refinery upgrades, particularly over the past 15 years. It costs more to produce cleaner gasoline than to produce conventional gasoline. Estimates of the increased costs of environmentally mandated gasoline range from \$0.03 to \$0.11 per gallon.⁴⁴

⁴²Beginning with the Clean Air Act Amendments of 1970 (Pub. L. No. 91-604, 84 Stat. 1698) and continuing with further amendments in 1990 (Pub. L. No. 101-549, 104 Stat. 2468) and the Energy Policy Act of 1992 (Pub. L. No. 102-486, 106 Stat. 2776), Congress has mandated substantial changes in the quality of gasoline, as well as diesel, that can be sold in the United States..

⁴³Robert Larson, Acting Director of the Transportation and Regional Programs, Environmental Protection Agency, Remarks at the FTC Conference on Factors that Affect Prices of Refined Petroleum Products 79-80 (May 8, 2002).

⁴⁴See EIA, *1995 Reformulated Gasoline Market Affected Refiners Differently*, in DOE/EIA-0380(1996/01), PETROLEUM MARKETING MONTHLY (1996), and studies cited therein. Environmental mandates are not the same in all areas of the country. The EPA requires particular gasoline blends for certain geographic areas, but it sometimes allows variations on those blends. Differing fuel specifications in different areas can limit the ability of gasoline wholesalers to find adequate substitutes in the event of a supply shortage. Thus, boutique fuels may exacerbate price variability in areas, such as California, that are not interconnected with large refining centers in other areas.

Our studies indicate that higher retail prices are not caused by excess oil company profits. Although recent oil company profits may be high in absolute terms, industry profits have varied widely over time, as well as over industry segments and among firms.

EIA's Financial Reporting System ("FRS") tracks the financial performance of the 28 major energy producers currently operating in the United States. In 2003, these firms did have a return on capital employed of 12.8 percent, as compared to the 10 percent return on capital employed for the overall Standard & Poors ("S&P") Industrials. Between 1973 and 2003, however, the annual average return on equity for FRS companies was 12.6 percent, while it was 13.1 percent for the S&P Industrials.⁴⁵ High absolute profits do not contradict numbers showing that oil companies may at times earn less (as a percentage of capital or equity) than other industrial firms. This simply reflects the large amount of capital necessary to find, refine, and distribute petroleum products.

The rates of return on equity for FRS companies have varied widely over the years, ranging from as low as 1.1 percent to as high as 21.1 percent during the period from 1974 to 2003.⁴⁶ Returns on equity vary across firms as well. Crude oil exploration and production operations typically generate much higher and more volatile returns than refining and marketing. In essence, companies with exploration and production operations now find themselves in a position analogous to that of a homeowner who bought a house in a popular area just before increased demand for housing caused real estate prices to escalate. Like the homeowner, crude oil producers can charge higher prices due to increased demand. If high prices and high profits

⁴⁵See GASOLINE PRICE CHANGES, *supra* note 3, at 61.

⁴⁶*Id.*

are expected to continue, they may draw greater investments over time into the oil industry – in particular, to crude exploration and production. Over the long run, these investments are likely to elicit more crude supply, which would exert a downward pressure on prices.

C. Other Factors, Such as Retail Station Density, New Retail Formats, and State and Local Regulations, Also Can Affect Retail Gasoline Prices

The interaction of supply and demand and industry efficiency are not the only factors that impact retail gasoline prices. State and local taxes can be a significant component of the final price of gasoline. In 2004, the average state sales tax was \$0.225 per gallon, with the highest state tax at \$0.334 per gallon (New York).⁴⁷ Some local governments also impose gasoline taxes.⁴⁸

Local regulations may also have an impact on retail gasoline prices. For example, bans on self-service sales or below-cost sales appear to raise gasoline prices. New Jersey and Oregon ban self-service sales, thus requiring consumers to buy gasoline bundled with services that increase costs – that is, having staff available to pump the gasoline.⁴⁹ Some experts have estimated that self-service bans cost consumers between \$0.02 to \$0.05 per gallon.⁵⁰ In addition,

⁴⁷See GASOLINE PRICE CHANGES, *supra* note 3, at 111 (noting that the other four states with the highest average taxes on gasoline in 2004 were Wisconsin (\$0.33 per gallon), Connecticut (\$0.325 per gallon), Rhode Island (\$0.306 per gallon), and California (\$0.301 per gallon)).

⁴⁸*Id.* For example, all areas in Florida also have a local tax between \$0.099 and \$0.178 per gallon. Similarly, Honolulu has a local tax of \$0.165 per gallon.

⁴⁹See, e.g., OREGON REV. STAT., ch. 480, § 480.315.

⁵⁰See Michael G. Vita, Regulatory Restrictions on Vertical Integration and Control: The Competitive Impact of Gasoline Divorcement Policies, 18 J. REG. ECON. 217 (2000); *see also* Ronald N. Johnson & Charles J. Romeo, The Impact of Self-Service Bans in the Retail Gasoline Market, 82 REV. ECON. & STAT. 625 (2000); Donald Vandegrift & Joseph A. Bisti, The

some 11 states have laws banning below-cost sales, so that a gas station is required to charge a minimum amount above its wholesale gasoline price.⁵¹ These laws harm consumers by depriving them of the lower prices that more efficient (*e.g.*, high-volume) stations can charge.

Economic Effect of New Jersey's Self-Service Operations Ban on Retail Gasoline Markets, 24 J. CONSUMER POL'Y 63 (2001).

⁵¹See GASOLINE PRICE CHANGES, *supra* note 3, at 113.

Not surprisingly, retail gasoline prices are likely to be lower when consumers can choose – and can switch their purchases – among a greater number of retail stations. A small number of empirical studies have examined gasoline station density in relation to prices. One study found that stations in Southern California that imposed a 1 percent price increase lost different amounts of sales, depending on how many competitors were close by.⁵² Those with a large number of nearby competitors (27 or more within 2 miles) lost 4.4 percent of sales in response to a 1 percent price increase; those with a smaller number of nearby competitors (fewer than 19 within 2 miles) lost only 1.5 percent of sales.⁵³ With all else equal, stations that face greater lost sales from raising prices will likely have lower retail prices than stations that lose fewer sales from raising prices.

Station density depends on cost conditions in an area. For example, the size and density of a market will influence how many stations can operate and cover their fixed costs. Fixed costs will depend on the costs of land and of building a station. Zoning regulations also may limit the number of stations in an area below what market conditions indicate the area could profitably sustain. Studies suggest that entry by new gasoline competitors tends to be more

⁵²JOHN M. BARRON ET AL., CONSUMER AND COMPETITOR REACTIONS: EVIDENCE FROM A RETAIL-GASOLINE FIELD EXPERIMENT (Mar. 2004), at <http://ssrn.com/abstract=616761>.

⁵³*Id.* at 13, 15, 30-31.

difficult in areas with high land prices and strict zoning regulations.⁵⁴

⁵⁴*See id.* at 30-31; Gov'T ACCOUNTABILITY OFFICE (GAO), GAO/RCED-00-121, MOTORFUELS: CALIFORNIA GASOLINE PRICE BEHAVIOR 20 (2000), *available at* <http://www.gao.gov/new/items/rc00121.pdf>.

One of the biggest changes in retail sales of gasoline in the past three decades has been the development of such new formats as convenience stores and high-volume operations. These new formats appear to lower retail gasoline prices. The number of traditional gasoline-pump-and-repair-bay outlets has dwindled for a number of years, as brand-name gasoline retailers have moved toward a convenience store format. Independent gasoline/convenience stores – such as RaceTrac, Sheetz, QuikTrip, and Wawa – typically feature large convenience stores with multiple fuel islands and multi-product dispensers. They are sometimes called “pumpers” because of their large-volume fuel sales. By 1999, the latest year for which data are available, brand-name and independent convenience store and pumper stations accounted for almost 67 percent of the volume of U.S. retail gasoline sales.⁵⁵

Another change to the retail gasoline market that appears to have helped keep gasoline prices lower is the entry of hypermarkets. Hypermarkets are large retailers of general merchandise and grocery items, such as Wal-Mart and Safeway, that have begun to sell gasoline. Hypermarket sites typically sell even larger volumes of gasoline than pumper stations – sometimes 4 to 8 times larger.⁵⁶ Hypermarkets' substantial economies of scale generally enable them to sell significantly greater volumes of gasoline at lower prices.

The list of factors that have an impact on retail gasoline prices is not exhaustive, but it shows that prices are set by a complex array of market and regulatory forces working throughout the economy. In the long run, these forces have combined to produce remarkably stable prices in the face of consistently growing demand. Short-run variations, while sometimes painful to

⁵⁵PETROLEUM MERGER REPORT, *supra* note 4, at 246 tbl.9-5.

⁵⁶*Id.* at 239.

consumers, are unavoidable in an industry that depends on the demand and supply decisions of literally billions of people.

IV. Conclusion

The Federal Trade Commission has an aggressive program to enforce the antitrust laws in the petroleum industry. The Commission has taken action whenever a merger or nonmerger conduct has violated the law and threatened the welfare of consumers or competition in the industry. The Commission continues to study this industry in detail, to monitor wholesale and retail gasoline prices, and to search for instances of illegal mergers or anticompetitive conduct.

Thank you for this opportunity to present the FTC's views on this important topic. I would be glad to answer any questions that the Committee may have.